

Encouraging Employee Innovative Behavior in the Public Sector through Effective Leadership Styles: A Systematic Review

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ABSTRAK

Perilaku inovatif pegawai di sektor publik adalah salah satu aspek krusial dalam usaha untuk meningkatkan mutu pelayanan publik. Kepemimpinan dipandang sebagai faktor kunci yang berperan signifikan dalam mendorong pegawai sektor publik untuk terlibat dalam aktivitas inovasi. Penelitian ini bertujuan untuk mengeksplorasi gaya dan karakteristik kepemimpinan yang dapat memfasilitasi perilaku inovatif pegawai pada organisasi publik. Penelitian dilaksanakan dengan menggunakan pendekatan systematic literature review dengan kerangka PRISMA. Sebanyak 48 artikel ilmiah dipilih untuk ditinjau dan dianalisis secara mendalam. Hasil analisis menunjukkan bahwa gaya kepemimpinan transformasional merupakan pendekatan yang paling banyak dibahas dalam konteks sektor publik dan terbukti efektif dalam mendorong perilaku inovatif pegawai. Analisis lebih mendalam menemukan, karakteristik kepemimpinan seperti dukungan inovasi dan kreativitas, inspirasi dan motivasi, kolaborasi dan pemberdayaan, berpikir visioner, serta membangun hubungan personal yang baik ditemukan memiliki keterkaitan erat dengan perilaku inovatif anggota organisasi. Temuan ini memberikan kontribusi signifikan terhadap pengembangan literatur kepemimpinan di sektor publik sekaligus menawarkan panduan praktis bagi organisasi publik dalam menerapkan strategi kepemimpinan yang efektif untuk mendorong inovasi.

ABSTRACT

The innovative behavior of employees in the public sector is one of the essential aspects of efforts to improve the quality of public services. Leadership is a key factor that performs a significant role in encouraging public sector employees to engage in innovation activities. This research aims to explore leadership styles and characteristics that can facilitate employees' innovative behavior in public organizations. The study was carried out using a systematic literature review approach with the PRISMA framework. A total of 48 scientific articles were selected for in-depth review and analysis. The results of the analysis show that the transformational leadership style is the approach most widely discussed in the public sector context and is proven to be effective in encouraging employee innovative behavior. A deeper analysis found that leadership characteristics such as supporting innovation and creativity, inspiration and motivation, collaboration and empowerment, visionary thinking, and building good personal relationships were found to be closely related to the innovative behavior of organizational members. These findings make a significant contribution to the development of leadership literature in the public sector while offering practical guidance for public organizations in implementing effective leadership strategies to encourage innovation.

INTRODUCTION

Innovation has become fundamental and crucial for public organizations to elevate the quality of public services, amplify productivity, and optimize organizational efficiency (Bak et al., 2022). The demand for innovation in this sector is increasing due to evolving public service expectations and policy shifts (Park & Jo, 2018). Organizational innovation in the public sector is strongly

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linked to employees' innovative behavior, as their contributions play a crucial role in generating new ideas (Musenze et al., 2024). Innovative behavior refers to employees' proactive efforts in developing, proposing, and implementing novel solutions to improve organizational processes and services (Janssen, 2000).

Public sector employees are uniquely positioned to foster innovation, as their direct interactions with citizens and firsthand experience with organizational challenges enable them to identify critical issues and develop effective solutions (Nguyen et al., 2023). Across different public sector organizations, innovative behavior is particularly crucial in ensuring responsiveness to evolving challenges and public expectations. Whether in government agencies (Ashfaq et al., 2021), healthcare (Bahagia et al., 2024), education (Wahab et al., 2024), or other public services, fostering a culture of innovation among employees helps organizations adapt, improve efficiency, and deliver impactful solutions. Despite differences in their structures and operational focuses, these public institutions share the common goal of providing quality services to society, making innovation essential for enhancing public service delivery and meeting the needs of citizens effectively (Almazrouei et al., 2023; Kung et al., 2020).

The need for innovative behavior among public sector employees is evident across various countries, including Indonesia. The Indonesian government continues to prioritize innovation in public organizations through regulations on bureaucratic reform and regional innovation, emphasizing the importance of fostering a culture that enhances efficiency and public service delivery. As the government continues to implement reforms and promote public sector innovation, there is growing recognition of the role employees play in driving meaningful change (Yudiatmaja et al., 2023). This is reflected in public expectations for government employees to actively develop creative solutions that enhance service delivery and address societal demands (Nurung et al., 2021). Although employees' inventive behavior is recognized as a pivotal factor for organizational prosperity, scholarly attention on this subject remains scarce, particularly within public institutions (Almazrouei et al., 2023; Baafi et al., 2021).

Public institutions often face challenges in promoting innovative behavior due to the rigid hierarchical structures (Park & Jo, 2018). Effective leadership is essential in addressing the rigid hierarchical structure of public institutions (Baafi et al., 2021) by fostering a supportive environment and motivating innovation to reach their highest performance levels (Habibie et al., 2024). Leadership is defined as the capacity to influence others, build relationships, and be acknowledged as legitimate in a leadership role (Nusair et al., 2012). Leadership theory has shifted from traditional perspectives, which emphasize inherent traits and individual leader behaviors, to modern approaches that view leadership as a dynamic process shaped by the interactions between leaders, followers, and situational factors (Benmira & Agboola, 2021).

Most studies indicate that various leadership styles have proven to be important factors in promoting innovative behavior in public institutions (Bernards, 2024; Kousina & Voudouris, 2023). However, some studies have reported that the relationship between these variables does not show a significant influence (Pham et al., 2024; Gelaidan et al., 2022). Given this research gap, this study purposed to explore whether specific leadership characteristics need to be applied to encourage employees to contribute more actively to innovation activities.

This research utilized a systematic literature review to thoroughly consolidate and critically evaluate prior studies on leadership styles in public institutions and critically evaluate their influence on employees' innovative behavior. The objective was to identify the leadership styles most commonly examined and demonstrated to be effective in promoting innovative behavior, while also investigating the key leadership traits that influence such behavior. This study was structured into several key sections. The literature review provided a foundational overview of

the themes discussed in this research. The section on research methodology details the approach of employing a Systematic Literature Review (SLR) and outlines the stages involved in the review process, including the criteria for selecting and analyzing studies. The results and discussion section disclosed the principal discoveries of the research. In conclusion, the summary emphasizes the key insights, contributions, and limitations and offers proposals for subsequent inquiries.

Literature Review

Innovative behavior involves intentional actions to generate, promote, and implement new ideas aimed at boosting performance across different levels (Janssen, 2000). Innovative behavior is distinct from routine behavior because it involves addressing complex and ambiguous problems that do not have clear, predefined solutions, unlike standardized tasks (Günzel-Jensen et al., 2018). Innovative behavior, particularly within the public sector, allows employees to recognize and resolve service delivery challenges, develop inventive approaches to work processes, and strengthen their problem-solving capabilities (Bak et al., 2022).

Motivating innovation among public sector employees requires balancing intrinsic and extrinsic incentives, such as compensation structures, promotional opportunities, teamwork, recognition, leader-staff relationships, and the awareness of the significance and impact of their contributions (OECD, 2015). This is in line with research identifying three primary factors influencing innovative behavior, including leadership, workgroups, and personal characteristics (Scott & Bruce, 1994). Among these factors, leadership assumes a central role in cultivating innovative behavior, as it shapes the organizational climate, allocates resources, and guides employee actions through incentives and opportunities for growth (Karimi et al., 2023).

Forceful leaders encourage employees to embrace change, deliver the necessary training and support, and nurture an organizational culture that promotes innovation and collaboration (Suri et al., 2024). Leadership can be defined as the ability to influence and mobilize others toward achieving shared goals, emphasizing both the process of guiding individuals and the impact of that influence on collective aspirations (Benmira & Agboola, 2021). Numerous studies have explored the influence of diverse leadership styles on innovative behavior within public institutions, including transformational leadership (Lim & Moon, 2022), servant leadership (Musenze et al., 2024), transactional leadership (Nordin & Kamil, 2023), authentic leadership (Zhang et al., 2024), ethical leadership (Zahra & Waheed, 2017), ambidextrous leadership (Kousina & Voudouris, 2023), and empowering leadership (Mutonyi et al., 2020). This suggests that the adoption of an appropriate leadership style is intricately connected to followers' innovative behavior in the public institution. Nevertheless, there remains a gap in research that directly investigates which leadership style is most effective in fostering innovative behavior and which specific leadership traits are particularly associated with such behavior.

This study makes a significant contribution by pinpointing the leadership style most extensively examined and consistently shown to drive innovative behavior in public organizations. Additionally, it provides insights by revealing specific leadership characteristics closely linked to fostering innovation among employees, deepening our understanding of the key elements that catalyze innovative behavior in public institutions.

RESEARCH METHODS

Systematic literature research is utilized in this study. This method systematically maps existing knowledge, identifies gaps in the literature, and ensures reliable conclusions through a transparent and structured process (Mengist et al., 2020). The primary benefit of this approach is its ability to uncover research questions, guide future investigations, and provide insights into methodologies, findings, and prominent scholars within a specific field (Torres-Carrión et al., 2018).

The research method adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to conduct a systematic review (PRISMA, 2024). This guideline offers a standardized approach that enhances the reliability of the review and replication process (Tedja et al., 2024). The PRISMA guidelines involve several steps to guarantee quality and uniformity during the review process, such as identifying the information sources, selecting studies, gathering data, setting eligibility criteria, and choosing data items (Tedja et al., 2024).

Search Strategy

This research focuses on examining the influence of leadership in cultivating innovative conduct among personnel within public sector institutions. To facilitate an in-depth analysis, a carefully selected set of databases was utilized, including *ProQuest*, *Sage Journals*, *Taylor & Francis Online*, *ScienceDirect*, *SpringerLink*, and *Wiley Online Library*. The search for relevant articles was conducted in November 2024. The search strategy employed a series of predefined keywords, which are outlined in Table 1, to ensure a comprehensive collection of studies that align with the research focus.

The article search successfully identified 931 relevant articles, with the following breakdown: *ProQuest* (n = 259), *Sage Journals* (n = 94), *ScienceDirect* (n = 139), *SpringerLink* (n = 94), *Taylor & Francis Online* (n = 144), and *Wiley Online Library* (n = 201). However, 19 articles were removed due to duplication, leaving a total of 912 articles for further analysis in the next stage of the review process.

Table 1.
Alternative Keywords for Article Search Strategy

Leadership	Innovative Behavior	Public Sector
Leadership	Innovative behavior	Public sector
Leader	Innovative	Public service
Leadership style	Innovation	Public
	Creativity	Government organization
	Idea generation	Government

Source: Processed by the author, 2024

Inclusion/Exclusion Criteria

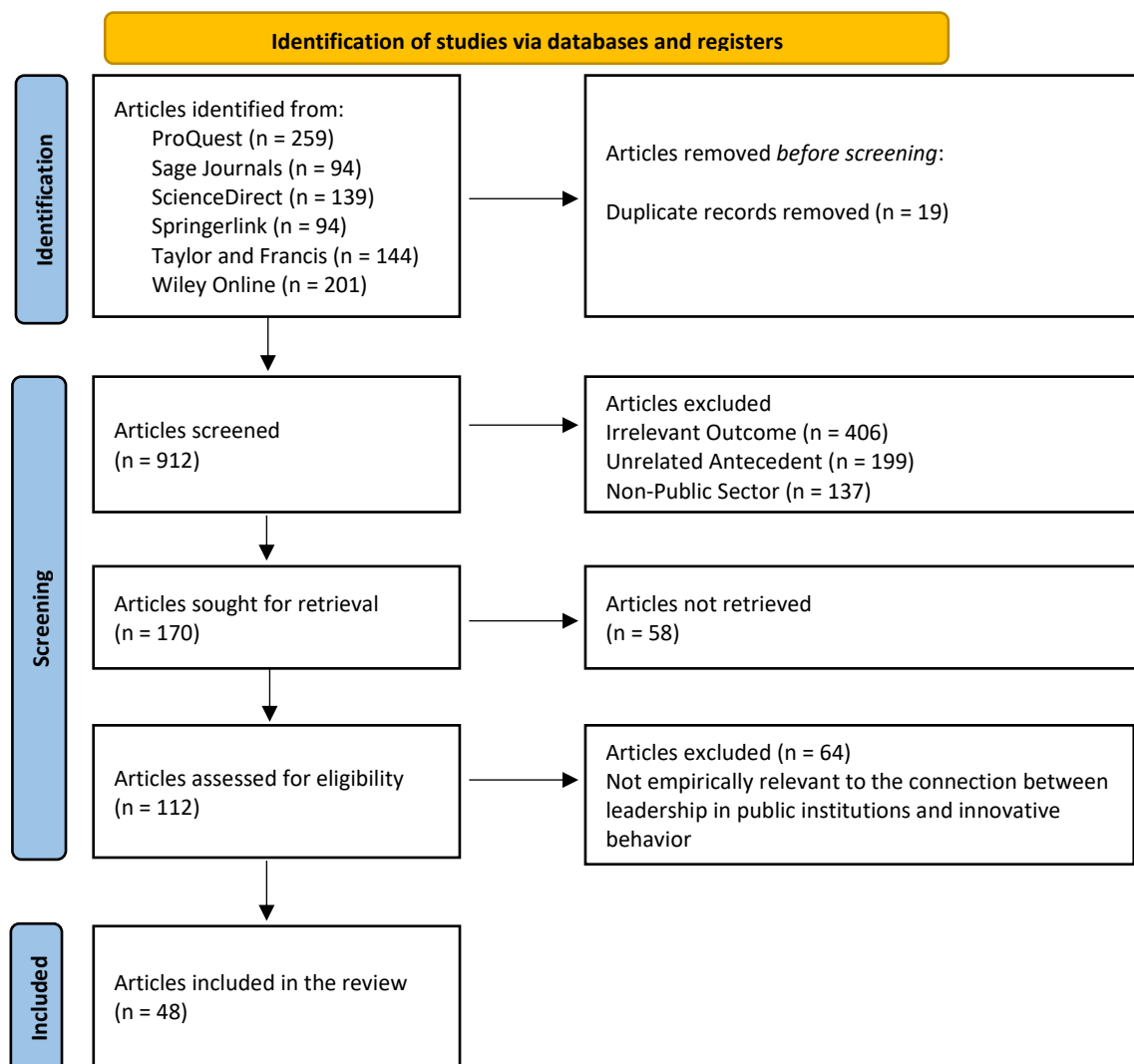
This study applies a systematic inclusion and exclusion criteria process in multiple stages. The selection was conducted using titles and abstracts with the help of the *Zotero* reference management software. The first stage involved screening articles that focused on the outcome of interest, which is innovative behavior. A total of 406 articles were excluded for not being relevant to innovative behavior. The second stage involved selecting articles related to the antecedent, leadership, and 199 articles were found to be unrelated to leadership. The third stage screened for studies conducted in public sector organizations and 137 articles were

excluded as they were not conducted in the public sector. Through this stepwise screening process, a total of 170 articles were identified that met the inclusion and exclusion criteria.

Extraction and Eligibility

Based on the initial screening process, the next stage involved retrieving the full articles. Out of the 170 articles identified, 112 were available for retrieval. These 112 articles were meticulously examined and appraised to determine their alignment with the research focus, which investigates the role of leadership in stimulating innovative behavior within public institutions. Following a comprehensive evaluation, 64 articles were deemed unsuitable as they did not empirically examine leadership styles and their connection to innovation activities in public institutions. Consequently, following the data extraction and eligibility assessment stages, 48 articles were considered appropriate and incorporated into the final analysis. The detailed stages of the article selection process following PRISMA guidelines are presented in Figure 1.

Figure 1.
Article Selection Process using PRISMA Flow Diagram



Source: Processed by the author, based on the PRISMA diagram flow, 2024

RESULTS AND DISCUSSIONS

This systematic review offers a comprehensive analysis of studies examining the influence of diverse leadership styles in public institutions on employee innovative behavior. As outlined in Table 2, the majority of research was conducted from 2016 to the present (95.8%), indicating the growing recognition of the need for effective leadership styles in public institutions to improve innovative performance. Most of these studies originated in Asia (56.3%), followed by Europe (25.0%), with smaller contributions from Africa (8.3%), Australia (6.3%), and America (4.2%). The research examined various types of public organizations, including government agencies, public hospitals, universities, libraries, and transportation services, demonstrating that leadership's impact on innovative behavior is crucial across diverse public-sector entities. Furthermore, 93.8% of the studies employed a quantitative approach, highlighting the dominance of empirical methods in this research area.

Table 2.
Study Characteristics

Study Characteristic	F	%
Year Publication		
2012-2015	2	4,2%
2016-2020	17	35,4%
2021-2024	29	60,4%
Origin of Study		
Asia	27	56,3%
Europe	12	25,0%
Africa	4	8,3%
Australia	3	6,3%
America	2	4,2%
Type of Organization		
Government Agencies	29	60,4%
Public Hospital	8	16,7%
Public University	4	8,3%
Public Library	1	2,1%
Public Museum	1	2,1%
Public Transportation	1	2,1%
Unspecified Public Service	4	8,3%
Research Methodology		
Quantitative	45	93,8%
Qualitative	2	4,2%
Mixed Method	1	2,1%

Source: Processed by the author, 2024

Dimensions of Innovative Behaviour

To obtain a more profound insight into innovative behavior within public institutions, it is essential to scrutinize the measurement employed to evaluate this behavior initially. Earlier research on innovative behavior within public institutions has generally focused on measuring it based on the innovation activities carried out within these organizations. These studies have predominantly used the framework proposed by Janssen (2000), which outlines three key stages of innovation: idea generation, idea promotion, and idea realization. Additionally, studies by De

Jong & Den Hartog (2010) and Scott & Bruce (1994) also align with this framework, suggesting similar stages of innovative behavior. Both studies highlight the importance of idea generation, promotion, and realization, showing a common understanding of the stages involved in fostering innovation in organizational contexts. In conclusion, these stages of innovative behavior have been proven to be integral to enhancing public service delivery and performance within public sector organizations.

In this framework, idea generation represents the initial phase, where individuals create novel and valuable ideas, often driven by challenges or emerging trends within their work environment (Janssen, 2000). The next phase, idea promotion, involves gaining support for these ideas by engaging potential allies, backers, or sponsors, thus forming a coalition to push the idea forward (Scott & Bruce, 1994). Finally, idea realization is the stage where the idea is transformed into a tangible prototype or model, ready for testing and application within the organization. In conclusion, these stages of innovative behavior have been proven to play a crucial role in improving public service delivery and enhancing performance within public sector organizations (De Jong & Den Hartog, 2010).

Leadership Styles Driving Innovation

The study's results reveal that 14 leadership factors have been identified as fundamental catalysts of innovative behavior within public sector institutions. This emphasizes the critical influence of leadership styles in shaping employee behavior and cultivating an innovation-driven culture. These outcomes resonate with the systematic literature synthesis by De Vries et al. (2016) and (Srirahayu et al., 2023), which emphasize leadership as a crucial determinant of innovative behavior in public institutions. Table 3 offers an extensive analysis of these leadership variables and their distinct associations with innovative behavior within such organizations.

Table 3.
Leadership Style

Leadership Style	Relevant Studies	Research Findings
Transformational leadership	Afsar & Masood, (2018); Ashfaq et al. (2021); Baafi et al. (2021); Bahagia et al., (2024); Bak et al. (2022); Brimhall 2021); Gelaidan et al. (2022); Günzel-Jensen et al. (2018); Hansen & Pihl-Thingvad (2019); Karimi et al. (2023); Lewis et al. (2018); Lim & Moon (2022); Masood & Afsar (2017); Nordin & Kamil (2023); Nusair et al. (2012); Ricard et al. (2017); Tan et al. (2021); Tan et al. (2023); Wipulanusat et al., 2018); Yudiatmaja et al. (2023)	Transformational leadership exerts a positive and direct effect on innovative behavior.
	Park et al. (2021); Zappalà et al. (2021)	Transformational leadership does not significantly affect innovative behavior.
	Pham et al. (2024)	Transformational leadership exerts a substantial indirect effect on innovative behavior.

Leadership Style	Relevant Studies	Research Findings
Transactional Leadership	Baafi et al. (2021); Gelaidan et al. (2022); Günzel-Jensen et al. (2018); Hansen & Pihl-Thingvad (2019); Nordin & Kamil (2023); Park et al. (2021); Ricard et al. (2017); Yudiatmaja et al. (2023)	Transactional leadership positively and directly contributes to innovative behavior.
	Zappalà et al. (2021)	Transactional leadership does not yield a notable effect on innovative behavior.
Servant Leadership	Almazrouei et al. (2023); Gelaidan et al. (2022); Gelaidan et al. (2024); Musenze et al. (2024); Park et al. (2021)	Servant leadership directly promotes positive innovative behavior.
	Nguyen et al. 2023)	Servant leadership indirectly has a significant impact on innovative behavior.
Ambidextrous Leadership	Akıncı et al. (2022); Bernards, (2024); Kousina & Voudouris (2023); Kung et al. (2020); Wahab et al. (2024)	Ambidextrous leadership positively affects innovative behavior through direct means.
Ethical Leadership	Musenze & Mayende (2023); Pučėtaitė, (2014); Van der Wal & Demircioglu (2020); Zahra & Waheed (2017); Zahra et al. (2017)	Ethical leadership directly enhances innovative behavior positively.
Entrepreneurial Leadership	Kousina et al. (2024); Lewis et al. (2018); Ricard et al. (2017)	Entrepreneurial leadership positively drives innovative behavior through direct impact.
	Miao et al. (2018)	Entrepreneurial leadership has a meaningful indirect influence on innovative behavior.
Authentic Leadership	Brunetto et al. (2024); Gelaidan et al. (2024); Zhang et al. (2024)	Authentic leadership directly encourages positive innovative behavior.
	Gelaidan et al. (2022)	Authentic leadership shows no substantial effect on innovative behavior.
Empowering Leadership	Günzel-Jensen et al. (2018); Mutonyi et al. (2020)	Empowering leadership directly fosters positive innovative behavior.
Altruistic Leadership	Lewis et al. (2018); Salas-Vallina et al. (2018)	Altruistic leadership positively impacts innovative behavior directly.
Network Governance Leadership	Lewis et al. (2018); (Ricard et al. (2017)	Network Governance leadership directly supports positive innovative behavior.

Leadership Style	Relevant Studies	Research Findings
Leader-Member Exchange	Peng (2020)	Leader-member exchange positively contributes to innovative behavior directly.
	Park & Jo (2018)	Leader-member exchange has a significant indirect impact on innovative behavior.
Interpersonal Leadership	Ricard et al. (2017)	Interpersonal leadership directly enhances innovative behavior positively.
Inclusive Leadership	Wahab et al. (2024)	Inclusive leadership positively influences innovative behavior through direct interaction.
Knowledge-Oriented Leadership	Ononye & Maduemezia (2024)	Knowledge-oriented leadership directly promotes innovative behavior positively.

Source: Processed by the author, 2024

a) Transformational Leadership

Among the 23 studies investigating transformational leadership within the public sector, 20 reveal a direct positive impact of transformational leadership in driving employee contributions to innovation activities, 2 show no substantial effect, and 1 indicates an indirect influence. This suggests that transformational leadership stands out as the most frequently examined leadership style in public entities and has been confirmed as a key factor in enhancing employees' innovative performance.

Transformational leadership, known for inspiring and motivating followers, encourages them to engage emotionally and develop their potential through a shared vision (Habibie et al., 2024). By serving as role models, fostering innovation, and offering personalized support, transformational leaders enhance employee satisfaction, commitment, and performance (Radtke, 2022). They align employees' self-actualization needs and values with a clear, long-term vision, effectively driving motivation and laying a strong foundation for innovative behavior (Hansen & Pihl-Thingvad, 2019). Moreover, by setting ambitious goals, transformational leaders challenge employees to question the status quo, take calculated risks, and engage in creative problem-solving, further promoting innovation (Karimi et al., 2023).

b) Transactional Leadership

Transactional leadership has also been extensively examined for its contribution to advancing innovative behavior among public service employees. Among the 9 articles examining transactional leadership in this context, 8 identified a direct positive impact on employees' innovative behavior, while only 1 reported no significant effect. Transactional leadership relies on the principle of exchanges, where leaders define expectations, clarify roles, negotiate incentives, and offer recognition to encourage subordinates to accomplish established objectives (Baafi et al., 2021). By using contingent rewards, as well as active or passive management-by-exception, transactional leaders ensure that goals are met through mutual

dependence and clear expectations, reinforcing employees' drive to innovate within the established framework (Demirtas & Karaca, 2020).

Transactional leadership promotes innovative behavior by controlling and monitoring performance, enhancing trust and dependability through guidance and corrective feedback, which empowers employees to accomplish tasks and, in turn, fosters creativity and innovation (Gelaidan et al., 2022). Through the establishment of explicit objectives and the provision of rewards for achieving them, transactional leaders cultivate an organized framework that drives employees to surpass expectations and partake in innovative work practices to gain acknowledgment (Nordin & Kamil, 2023).

c) Servant Leadership

Six studies have explored how servant leadership motivates employees to engage in innovation, highlighting its key role in fostering creativity and change. Servant leadership is defined by leaders who prioritize the needs of their subordinates, placing those needs above their own, and extending their service not only to the organization but also to the broader community (Nguyen et al., 2023). This leadership approach creates a supportive and empowering environment where employees feel valued, encouraging them to take initiative, share ideas, and collaborate effectively (Patterson, 2010). By building trust, emphasizing followers' well-being, and creating a supportive environment, servant leaders motivate employees to feel valued, which, in turn, drives their engagement in innovation activities (Musenze et al., 2024). This mutual relationship, where leaders provide guidance, appreciate contributions, and build trust and respect, encourages subordinates to come up with creative ideas and actively contribute to innovation within the organization (Gelaidan et al., 2024).

d) Ambidextrous Leadership

Five studies highlight the significance of ambidextrous leadership in fostering innovation contributions within public institutions. Ambidextrous leadership is described as a leader's capacity to alternate between opening and closing behaviors depending on situational requirements, allowing employees to balance exploration and exploitation by adjusting their actions and conduct (Kousina & Voudouris, 2023). This situational approach highlights that leaders adapt their directive and supportive styles based on the followers' competence, commitment, and the specific conditions of the situation (Northouse, 2016). Opening leadership encourages the generation of new ideas and independent thinking while emphasising establishing structure and ensuring adherence to rules for the successful execution of those ideas (Kung et al., 2020)s .

The integration of opening and closing behaviors is anticipated to encourage innovative activities by promoting the generation of new ideas as well as enhancing existing processes (Bernards, 2024). By balancing creativity with structure, ambidextrous leadership creates an environment that maximizes employees' potential for innovation, demonstrating that both opening and closing behaviors are essential for driving successful innovation, as they support the generation and effective execution of ideas (Kousina & Voudouris, 2023).

e) Ethical Leadership

Five studies have examined the contribution of ethical leadership in public entities to encourage innovative activities. Ethical leadership involves leaders who serve as moral role models, guiding their followers by using power responsibly, making principled decisions, and treating others with fairness and respect (Robbins & Judge, 2024). This leadership style, characterized by behavior that reflects moral standards through personal conduct and interactions, inspires similar actions

in employees through open communication, positive reinforcement, and collaborative decision-making (Van der Wal & Demircioglu, 2020). By involving employees in decision-making and providing necessary resources, autonomy, and support, ethical leaders foster an atmosphere that nurtures inventive work practices (Musenze & Mayende, 2023). Additionally, ethical leaders enhance innovative behavior by respecting employees' dignity and talents, facilitating skill development, assigning tasks that align with their capabilities, and fostering psychological safety through their altruism and honesty, empowering employees to confidently promote their ideas (Zahra & Waheed, 2017).

Key Leadership Characteristics

A deeper analysis was conducted by grouping leadership characteristics that that nurture innovative behavior in public institutions. Table 4 outlines the leadership characteristics most closely linked to innovation activities. Leadership characteristics that promote creativity and inspire subordinates have been widely discussed for their ability to drive innovation, particularly in public sector organizations. This implies that public sector employees require support from their leaders in terms of both psychological empowerment (Ashfaq et al., 2021) and organizational culture (Wipulanusat et al., 2018) so they feel more motivated to engage in innovation activities.

Leaders who promote creativity and challenge the status quo inspire employees to rethink norms, generate new ideas, and drive innovation through intellectual stimulation and proactive thinking (Baafi et al., 2021). Inspiring and motivating leaders prioritize open communication with their teams, and encourage followers to continuously adapt and learn, thereby fostering a culture that supports sustainable innovation (Park et al., 2021). By fostering an innovation culture, leaders cultivate the mindset that organizations cannot stay still, but must evolve and improve by adopting new approaches (Armstrong, 2009).

The dynamic relationship between leaders and subordinates is another critical factor in fostering innovation within the public sector. Leaders who build personal connections with their team members not only understand each individual's strengths and abilities but also help develop these qualities, guiding them toward effective problem-solving (Brimhall, 2021). By addressing employees' unique developmental needs and acting as mentors, these leaders create a supportive environment that promotes learning and drives innovation (Bak et al., 2022). Providing recognition through appreciation and constructive feedback further strengthens the relationship between leaders and employees (Kouzes & Posner, 2023). Employees who feel acknowledged and valued become more motivated and exhibit higher self-efficacy, ultimately contributing more and driving greater productivity (Frank, 2023).

Knowledge also serves as a cornerstone for innovative behavior, equipping employees with the tools and insights necessary to develop novel ideas and solutions (Ononye & Maduemezia, 2024). Knowledge-oriented leaders embrace continuous learning, maintaining openness to acquiring new insights even in challenging business environments (Holbeche, 2022). This mindset not only enhances their capabilities but also enables them to prioritize the development of their subordinates, encouraging them to acquire new skills and expertise (Bass & Riggio, 2006). Leaders prioritize individual learning, growth, and development to enhance employees' performance, enabling them to realize their full potential as human beings (Ytterstad & Olaisen, 2023). Furthermore, by cultivating a culture of knowledge sharing, these leaders enhance organizational knowledge, which empowers employees to effectively develop and express innovative ideas (Bahagia et al., 2024).

Interestingly, leadership characteristics that involve tight control are also considered effective in encouraging innovative behavior, even in public sector organizations. Although control may initially appear restrictive, its appropriate application can provide clear task guidance, establish trust through transactional agreements, and empower employees to achieve goals that inspire creativity and innovation (Gelaidan et al., 2022). By establishing routines, monitoring goal achievement, and correcting errors based on established rules, leaders create a task-oriented environment that fosters a focus on excellent outcomes, ultimately cultivating an atmosphere conducive to innovation (Kung et al., 2020).

Additionally, leaders who implement fair reward and punishment systems are crucial in promoting innovative activities in public institutions. Fair rewards, such as verbal, material, and immaterial recognition, have a vital influence in inspiring employees to perform at their best and fostering innovative actions (Yudiatmaja et al., 2023). Employees are inspired to demonstrate greater creativity and innovation to meet their leader's expectations and gain an appreciation for outstanding performance (Nordin & Kamil, 2023). Conversely, sanctions are used to align employees' attitudes and behaviors with organizational goals, ensuring accountability and adherence to the desired standards (Yudiatmaja et al., 2023).

Table 4.
Leadership Character

Leadership Character	Related Characters	Conceptual Explanation	Number of Studies
Promote Creativity and Innovation	promote creativity, promote innovation, challenge the status quo, build an innovation culture	inspire followers to challenge existing norms, rethink problems from new perspectives, and generate fresh ideas (Baafi et al., 2021)	26
Inspiration and Motivation	inspirational motivation, inspiring, motivating, encouragement	Encourage others to take action, perform at their best, and stay engaged with the vision (Brimhall, 2021)	26
Collaboration and Empowerment	collaborative, build trust, empowerment, participative decision-making, autonomy, independence	build strong collaboration, emphasize employee autonomy, and encourage active participation (Wahab et al., 2024)	25
Visionary Thinking	vision, goal-oriented, communicate vision, long-term perspective, shared vision, collective goals	articulate and communicate clear visions that inspire employees to prioritize collective goals (Baafi et al., 2021)	23
Employee Relationship Building	individualized consideration, personal support, personal recognition, personal concern	provides personal attention to employees' needs and achievements, with a strong concern for their development (Bak et al., 2022)	22

Leadership Character	Related Characters	Conceptual Explanation	Number of Studies
Control and Monitoring	tight control, monitoring & evaluation, following rules, preventing errors, tracking progress, supervision	establish routines, track progress, and correct errors, fostering a work environment dedicated to excellent outcomes (Kung et al., 2020)	13
Knowledge Oriented	willing to learn, continuous improvement, share knowledge, employee development	focus on continuous improvement through learning, development, and knowledge sharing (Ononye & Maduemezia, 2024)	11
Fair Reward	fair reward, transparent compensation	provide rewards and sanctions based on performance and contribution (Yudiatmaja et al., 2023)	10
Ethical Integrity	integrity, moral integrity, ethical personality, honesty	apply integrity by demonstrating honesty, sincerity, care, and strong morals in their actions and decision-making processes (Musenze & Mayende, 2023)	9
Stewardship	serving others, taking responsibility, protecting followers, prioritizing team interests	Taking responsibility for others' well-being, prioritizing team interests, and protecting followers	8
Risk-Taking	risk-taking, taking opportunities	Seizing opportunities and making bold, calculated decisions to drive progress	6
Fairness	fairness, non-discrimination, equality	Ensuring equality and non-discrimination in treatment and opportunities	6
Flexibility	Flexibility	Adapting to change and adjusting strategies to meet evolving needs or challenges	3

Source: Processed by the author, 2024

CONCLUSION

This systematic review aims to explore the impact of leadership on fostering innovative behavior in public sector institutions. A thorough examination of 48 studies reveals that effective leadership is a key driver of innovative behavior in public sector organizations. Among various leadership styles, transformational leadership is the most frequently studied and has consistently been proven to foster innovation among employees. This leadership style enables public sector organizations to navigate complex challenges, adapt to change, and continuously improve public services. However, other leadership styles, including transactional, servant, ambidextrous, and ethical leadership, also demonstrate their ability to support innovation depending on organizational needs and operational contexts. These findings emphasize that leadership is not merely a managerial function but a strategic force that shapes an organization's ability to innovate.

A deeper analysis of the literature highlights that specific leadership characteristics are crucial in fostering innovative behavior. In public organizations, leaders cultivate a culture of innovation by promoting creativity and empowering employees, allowing new ideas to emerge and more effective solutions to be developed. Inspiration and motivation further drive employees to actively engage in innovation, while collaboration and strong interpersonal relationships facilitate knowledge sharing and teamwork. A clear vision ensures these efforts align with organizational goals, providing direction and purpose. By embodying these qualities, leaders build a dynamic and adaptive organization capable of continuous improvement in service delivery and responsiveness to evolving challenges.

The importance of leadership styles and characteristics in fostering innovation is particularly relevant for public organizations in Indonesia. As public sector institutions face increasing demands to enhance service quality and meet the evolving needs of society, the ability to innovate becomes a necessity. Implementing leadership approaches that encourage creativity, empower employees, and promote collaboration can help public organizations in Indonesia navigate bureaucratic challenges and drive meaningful improvements. By adopting effective leadership practices, these institutions can cultivate a culture of innovation that supports sustainable development and responsive public service delivery.

Theoretical and Practical Implication

This study provides significant theoretical and practical contributions to understanding leadership and innovative behavior in public institutions. Theoretically, by integrating findings from various studies on leadership styles, this research emphasizes the crucial role of effective leadership in fostering innovation among public sector employees. It highlights specific leadership traits that are closely associated with innovative behavior and underscores the importance of strong leader-member relationships and supportive organizational culture in reinforcing these leadership styles. Leaders who adopt the right leadership approach can cultivate an environment that encourages continuous learning, adaptability, and openness to change, which are essential for driving innovation.

From a practical standpoint, these findings provide valuable insights for diverse public sector organizations, particularly in Indonesia, by synthesizing leadership roles from various countries and different types of public institutions. Public sector organizations can adopt leadership styles that have been proven to drive innovation and create effective leadership development programs. For public sector leaders, the contribution lies in the need for continuous learning and the application of leadership traits that have consistently been shown to foster innovation among employees. By doing so, leaders can cultivate a culture that encourages creativity, knowledge sharing, and adaptability, ultimately improving public service delivery.

Limitations and suggestions for further studies

This study is not without limitations. First, the systematic review is restricted to a predetermined set of databases, leaving room for future research to expand this topic by including sources from additional databases not covered in this study. Additionally, the review specifically focuses on articles based on empirical studies, excluding exploratory or non-empirical research. Future studies could broaden the scope by incorporating such research. Finally, this study examines leadership styles and characteristics influencing innovative behavior in the public sector through a qualitative literature review. Future research could validate the findings of this study by employing empirical, quantitative methods.

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